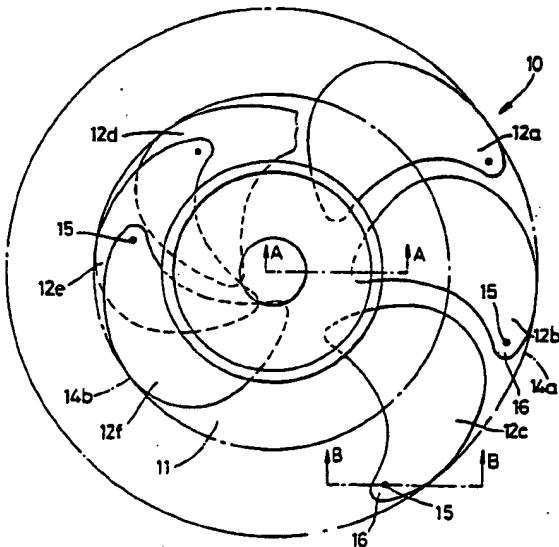


PA4418
E(4)

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 5 : E01F 1/00	A1	(11) International Publication Number: WO 93/15274 (43) International Publication Date: 5 August 1993 (05.08.93)
(21) International Application Number: PCT/GB93/00192		(81) Designated States: CZ, JP, SK, US, European patent (AT BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC NL, PT, SE).
(22) International Filing Date: 29 January 1993 (29.01.93)		
(30) Priority data: 9202167.4 1 February 1992 (01.02.92) GB 9226088.4 15 December 1992 (15.12.92) GB		Published <i>With international search report.</i>
(71)(72) Applicant and Inventor: HULL, Michael, Peter, Gifford [GB/GB]; The Croft, Yate, Bristol BS17 5QN (GB).		
(74) Agents: DUNLOP, Brian, Kenneth, Charles et al.; Wynne-Jones, Laine & James, 22 Rodney Road, Cheltenham, Gloucestershire GL50 1JJ (GB).		

(54) Title: ROUNDABOUT



(57) Abstract

This invention relates to various embodiments of roundabouts (10) which have elements (12, 20 or 27) which can project from a base (11, 19) to define an outer periphery for the roundabout. The roundabouts (10) are particularly suitable as temporary or mini-roundabouts.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	FR	France	MR	Mauritania
AU	Australia	GA	Gabon	MW	Malawi
BB	Bahamas	GB	United Kingdom	NL	Netherlands
BE	Belgium	GN	Guinea	NO	Norway
BF	Burkina Faso	CR	Greece	NZ	New Zealand
BG	Bulgaria	HU	Hungary	PL	Poland
BJ	Benin	IE	Ireland	PT	Portugal
BR	Brazil	IT	Italy	RO	Romania
CA	Canada	JP	Japan	RU	Russian Federation
CF	Central African Republic	KP	Democratic People's Republic of Korea	SD	Sudan
CG	Congo	KR	Republic of Korea	SE	Sweden
CH	Switzerland	KZ	Kazakhstan	SK	Slovak Republic
CI	Côte d'Ivoire	LJ	Liechtenstein	SN	Senegal
CM	Cameroon	LK	Sri Lanka	SU	Soviet Union
CS	Czechoslovakia	LU	Luxembourg	TD	Chad
CZ	Czech Republic	MC	Monaco	TG	Togo
DE	Germany	MG	Madagascar	UA	Ukraine
DK	Denmark	ML	Mali	US	United States of America
ES	Spain	MN	Mongolia	VN	Viet Nam
FI	Finland				

Roundabout

This invention relates to roundabouts, traffic islands or the like. Mini roundabouts are becoming a more and more popular method of providing relatively cheap traffic control, but they rely on road users obeying the rules relating to roundabouts and in practice this often proves to be over-optimistic. Frequently drivers will either ignore the roundabout designations completely or take undesirable short cuts across part of the designation. Further it is often desirable to provide traffic islands or roundabouts of particular dimensions to suit a junction but in practice these dimensions are determined by the building elements available.

Thus from one aspect the present invention consists in a roundabout, traffic island or the like, comprising a base and a plurality of elements mounted on or projecting from the base to define the outer periphery of the roundabout.

The elements may be in the form of spokes radiating from the base. In either case the base may define respective recesses or tunnels in which the elements can be located. The elements may be made up of one or more portions which may, for example, be interconnected by plug like connectors.

The elements may be generally arch-shaped in cross section although their height may diminish along their length. The elements may be extruded.

The base may be essentially in the form of a hub and

may be cast from concrete, plastics or particularly preferably reconstituted plastics. The base may be formed in a single part or in a number of interconnectable portions.

From another aspect the present invention consists in
5 a roundabout, traffic island or the like comprising a base and a plurality of elements mounted on the base to define the outer periphery of the roundabout, the elements being mounted for movement relative to the base so that they can progressively project from the base to define outer periphery for the roundabout of increasing magnitude.
10

At least, in most of these later embodiments it is desirable that the elements are slidably connected to the base for movement in a generally outward direction. In one preferred embodiment the elements may be generally wedge-shaped in horizontal cross-section, in which case they may be higher at their end nearest to the middle of the base than they are adjacent the end which defines a part of the outer periphery. Frequently there may be gaps between the elements in at least some projected positions so they in
15 effect act as sleeping policemen of increasing severity the more a motorist encroaches the roundabout.
20

The elements may be rotatably mounted on the base in an alternative arrangement and may be particularly conveniently both rotatably and slidably mounted on the base. When the
25 elements are rotatably relative to the base the elements may be generally crescent-shaped and at least part of each element may underline the base. In this arrangement the elements act rather like a camera iris except with the outer

periphery increasing in dimension.

The roundabout may include means for fixing the elements relative to the base once the desired periphery has been achieved. This may include means for securing the 5 elements and/or the base to the road surface.

Although the invention has been defined above it is to be understood that it includes any inventive combination of the features set out above or in the following description.

The invention may be performed in various ways and 10 specific embodiments will now be described, by way of example, with reference to the accompanying drawings in which;

Figure 1 is a plan view of one embodiment of a roundabout with elements shown in different operational positions; 15

Figure 2 is a section of the roundabout of Figure 1 along the line A-A;

Figure 3 is a section of the roundabout of Figure 1 taken along the line B-B;

20 Figure 4 is a view from below of the base of the roundabout of Figure 1;

Figure 5 is a plan view of an alternate form of a roundabout in accordance with the invention; and

25 Figure 6 is a section of the roundabout of Figure 5 along the line C-C.

Figure 7 is a side view of a base of a roundabout;

Figure 8 is an exploded view from above of a roundabout incorporating the base of Figure 7;

Figure 9 is a side view of an alternative base;
Figure 10 is a plan view of the base of Figure 9;
Figure 11 is a side view of a further form of base, and
Figure 12 is a plan view of the base of Figure 11.

Referring to Figures 1 and 3 a roundabout 10 comprises a central base portion 11 and a plurality of skirt elements 12. The skirt elements are connected to the base by means of bolts 13 which pass through radial slots 11a in the base. The extent to which the skirt elements 12 project from the base portion 11 depends in part on the radial position of the respective bolts 13 in its slot and partly on the rotational position of the skirt element 12 relative to the base portion 11. By appropriate selection of these radial and rotational positions the skirt elements 12 can be located to define a range of outer peripheries 14. As can be seen in Figure 1 skirt elements 12a to 12c are in positions in which they project significantly from the base 11 and define outer periphery 14a, whereas skirt elements 12d to 12f are in their most withdrawn positions and define an outer periphery 14b. As well as defining circular outer peripheries, non-regular shapes can be achieved by rotating and extending various skirt elements to varying degrees.

Once the skirt elements 12 have been laid out in the desired position, they can be secured to the base and the ground by means of bolts 13 and they may also be secured to the ground and/or each other by means of bolts 15 which act close to their tips 16.

It will be noted that the base 11 has a raised central

portion 17 so as to provide a physical obstacle to drivers. This could also serve as a flower pot or bed and may carry reflective signs on its outer surface. A kerb 17a may also be provided.

5 Referring to Figures 5 and 6 an alternative form of roundabout is shown at 18. This has a base 19 on which are slidably mounted a number of wedge elements 20. Conveniently the wedge elements may be supported on T-section extrusions 21. In use the outer periphery 18a of the
10 roundabout 19 can be altered simply by radial movement of the wedge elements 20. As can be seen in Figure 5 the wedge elements are highest nearest their narrow inner ends 22 and lowest nearest their outer edges 23. Because there are gaps 24 between them, in most extended positions, they
15 serve as sleeping policemen or speed humps of progressive severity. The space 25 in the centre may be filled with a raised central portion, as in the preceding embodiment, or it may be free so that the wedges can collapse back to entirely overlie the face. The base and wedge elements can
20 be bolted to the road surface as before. Additionally or alternatively appropriate adhesives may be used.

It is envisaged that almost all portions of these roundabouts could be made from recycled plastics and they would therefore provide cheap appropriate obstacles for
25 drivers with dimensions which are appropriate to their locations.

Turning to Figures 7 and 8, the central base portion 11 is formed with a series of circumferentially spaced recesses

26 into which spoke like elements 27 can be inserted to define a roundabout 10. The spoke like elements 27 may be further extended by additional elements 28 connected longitudinally with the elements 27 by a plug like connector 5 29. By appropriate conjoining of elements 27 and 28 and/or cutting them to length, any desired roundabout periphery can be achieved. The advantage of this arrangement, over those described in the earlier embodiments, is that it is easier to manufacture and slightly less complex in use.

10 The base 11 once again has a raised central portion 17 and may be cast in any appropriate material such as concrete, glass reinforced plastics or reconstituted plastics. It may be cast as a single element or in a number of interconnectable pieces. The elements 27, 28 and plug 29 15 may be extruded and may be formed in any of these materials.

Figures 9 and 10 and 11 and 12 illustrate alternative constructions of the central base unit 11. In this case the recesses 26 are in the form of tunnels providing good accurate location of the spoke like elements 27. Conveniently these units may be cast in two portions so that the 20 central raised portion 17 is one part and a bottom portion 30 is the other part.

Claims

1. A roundabout, traffic island or the like, comprising a base and a plurality of elements mounted on a projecting from the base to define the outer periphery of the roundabout.
2. A roundabout as claimed in Claim 1 wherein the elements are in the form of spokes radiating from the base.
3. A roundabout as claimed in Claim 1 or Claim 2 wherein the base defines recesses or tunnels in which the elements can be located.
4. A roundabout as claimed in any one of the preceding claims wherein the elements are made up of one or more portions.
5. A roundabout as claimed in Claim 4 wherein the portions are interconnected by plug-like connectors.
6. A roundabout as claimed in any one of the preceding claims wherein the elements are mounted for movement relative to the base to define an outer periphery for the roundabout of increasing magnitude.
7. A roundabout as claimed in Claim 6 wherein the elements are slidably connected to the base for movement in a generally outward direction.
8. A roundabout as claimed in any one of the preceding claims wherein the elements are wedge shaped in horizontal cross-section.
9. A roundabout as claimed in any one of the preceding claims wherein the height of the elements diminishes

along their length.

10. A roundabout as claimed in any of the preceding claims wherein the elements are generally arch-shaped in vertical cross-section.

5 11. A roundabout as claimed in any one of the preceding claims wherein the elements define gaps between them.

12. A roundabout as claimed in Claim 6 or Claim 7 wherein the elements are rotatably mounted on the base.

13. A roundabout as claimed in Claim 12 wherein the
10 elements are generally crescent shaped.

14. A roundabout as claimed in any one of the preceding claims including means for fixing the elements relative to the base.

1/8

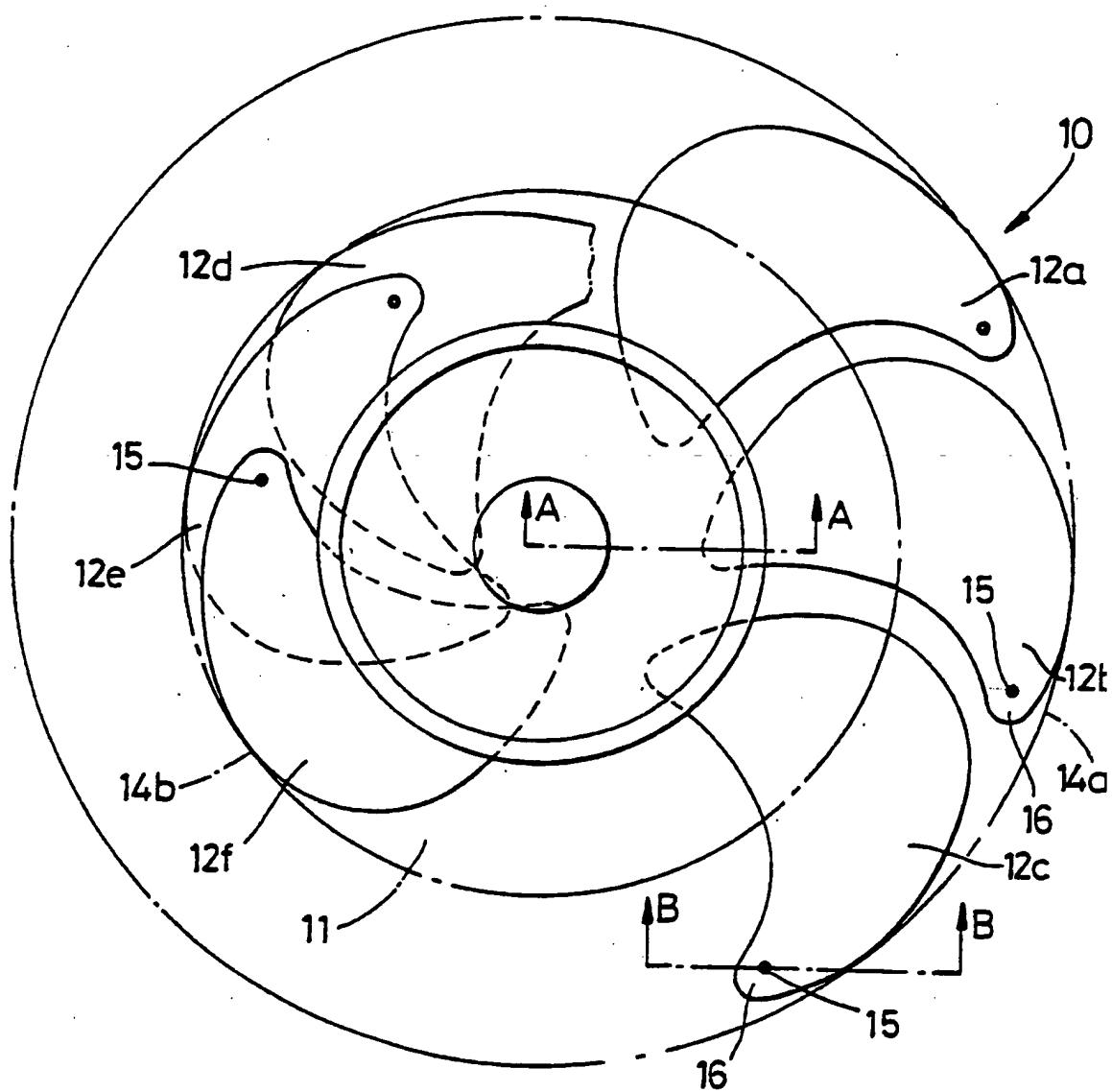


Fig. 1

2/8

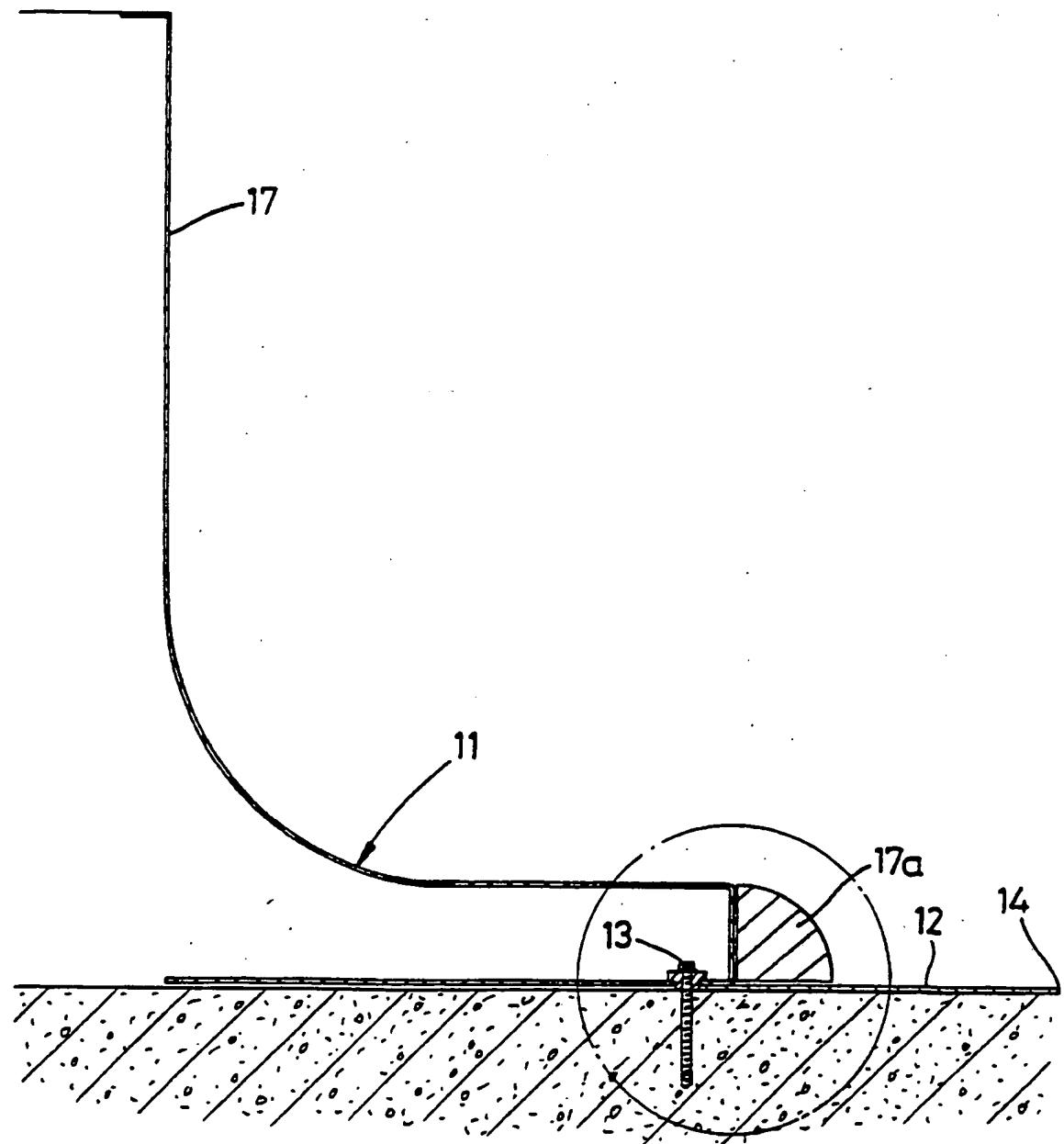


Fig. 2

3/8

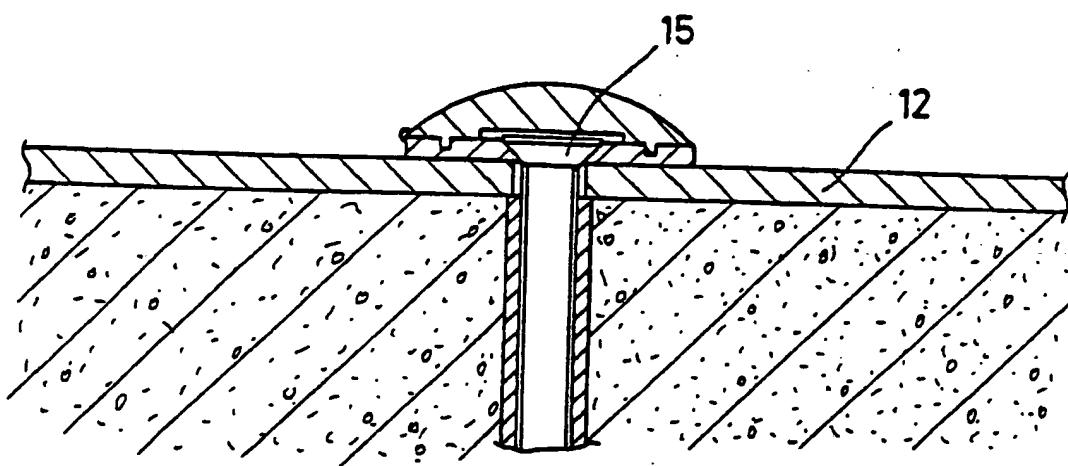


Fig. 3

4/8

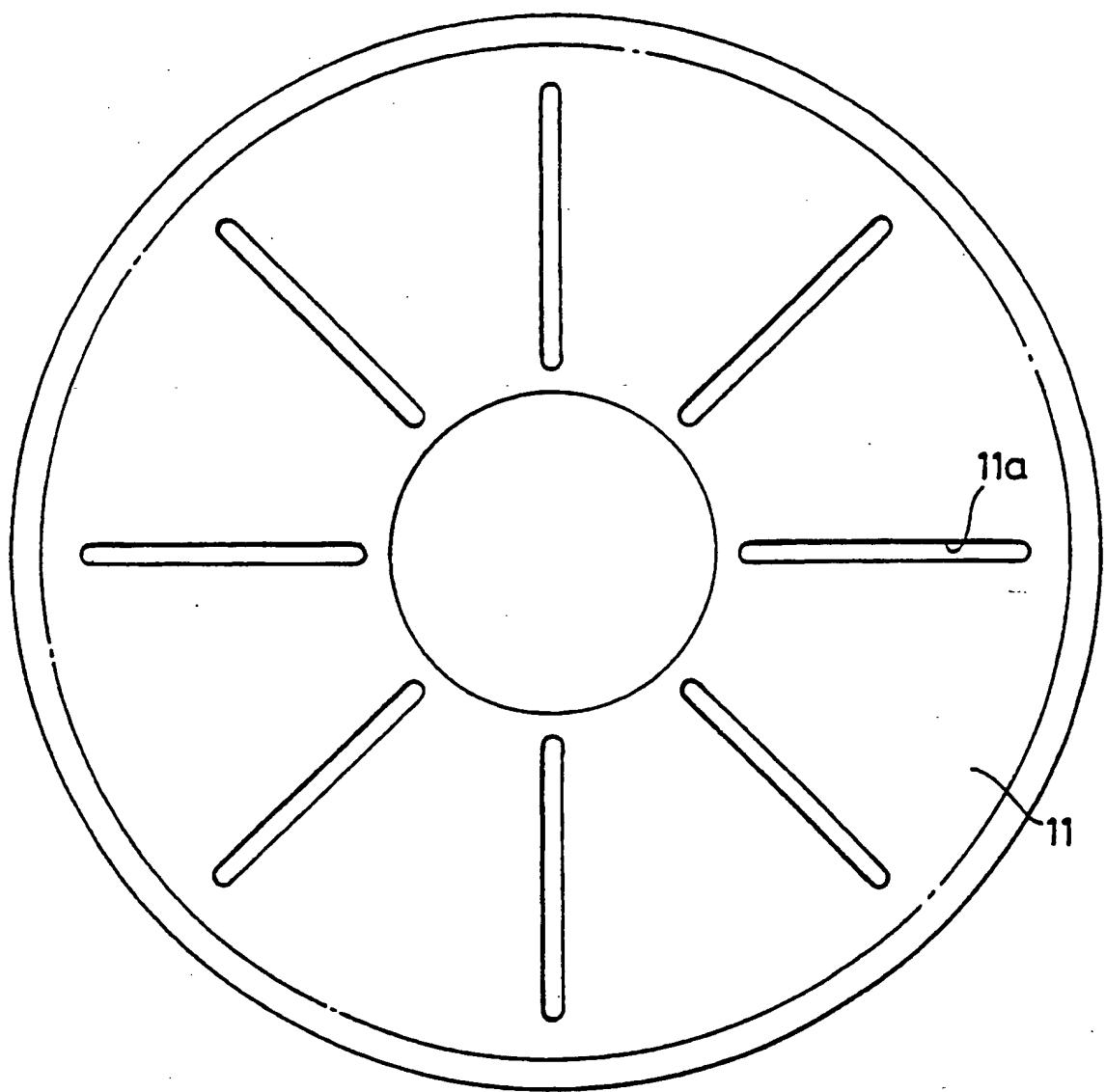
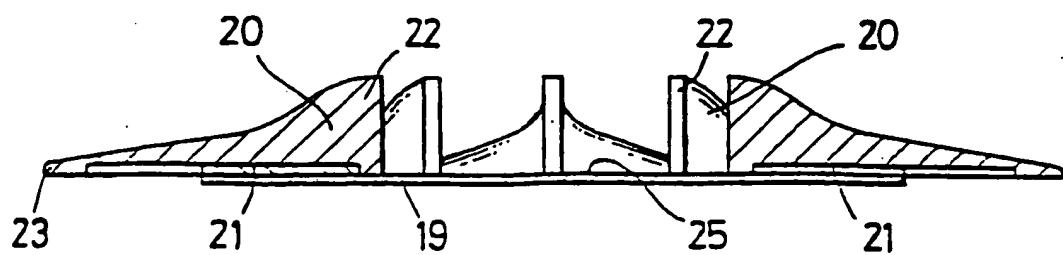
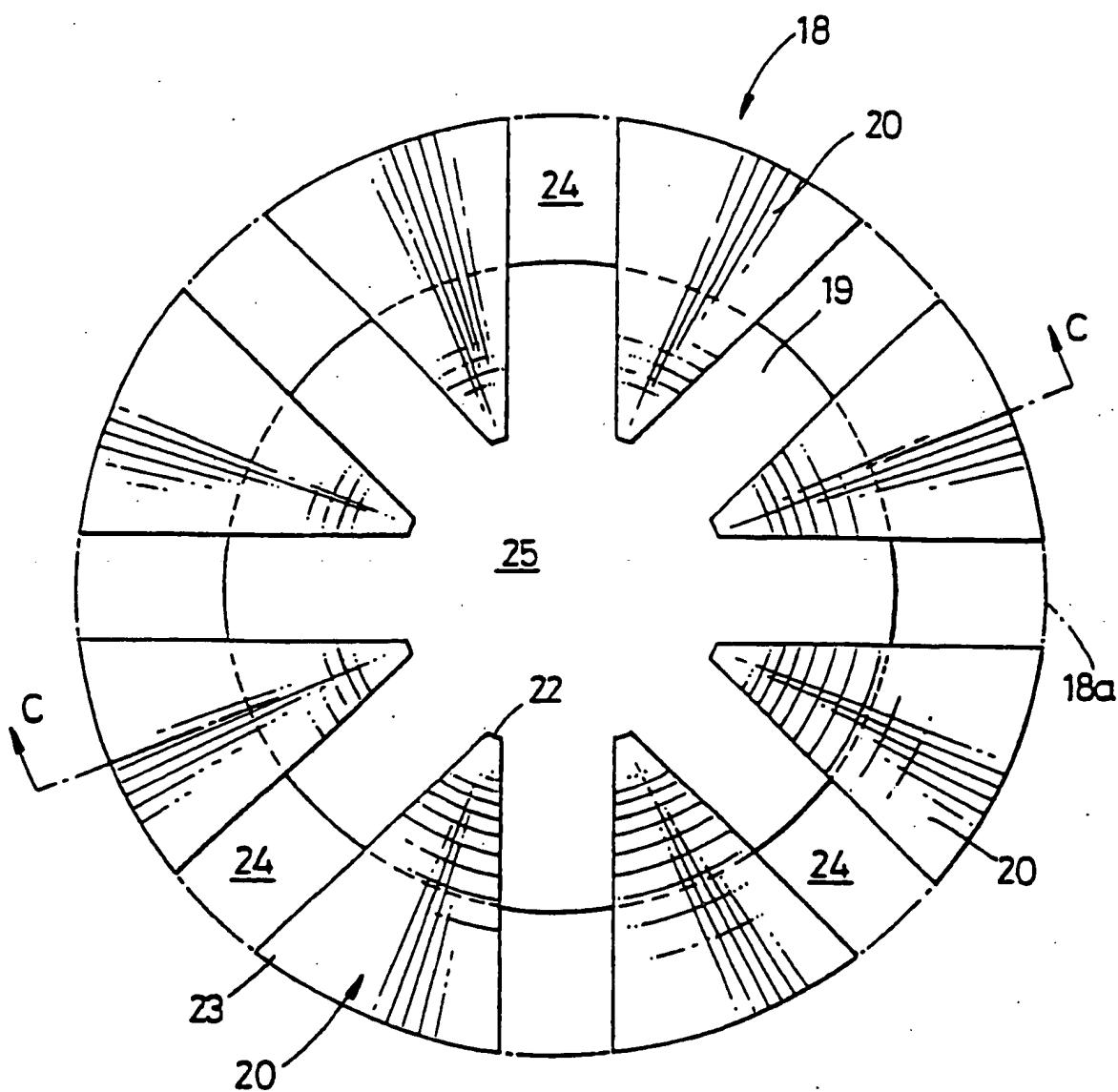


Fig. 4

5/8



6/8

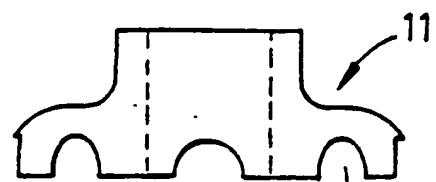


Fig. 7

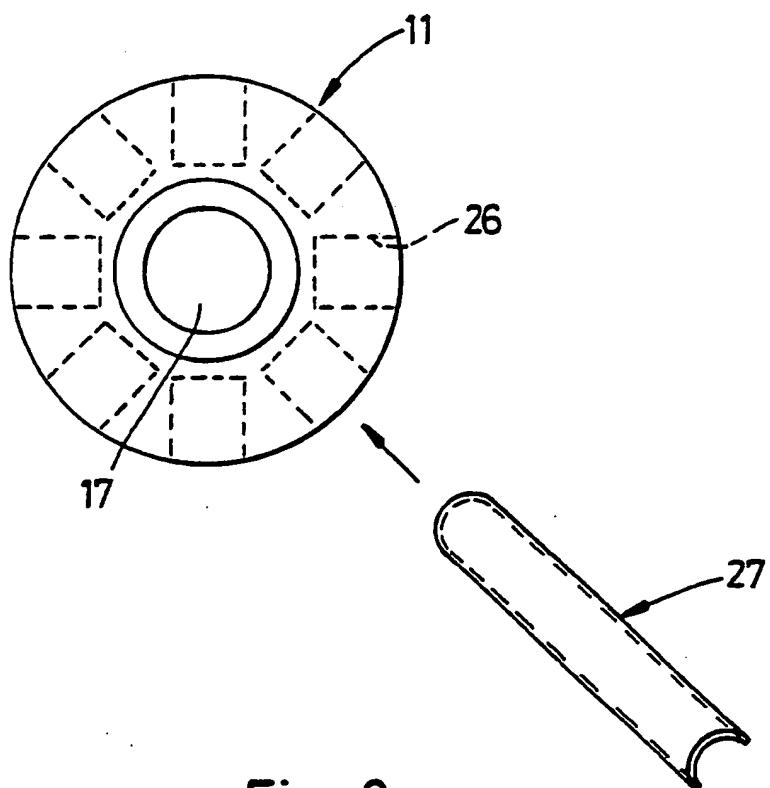
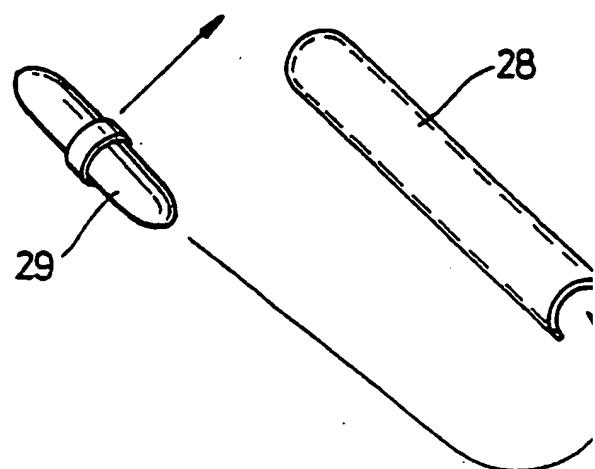


Fig. 8



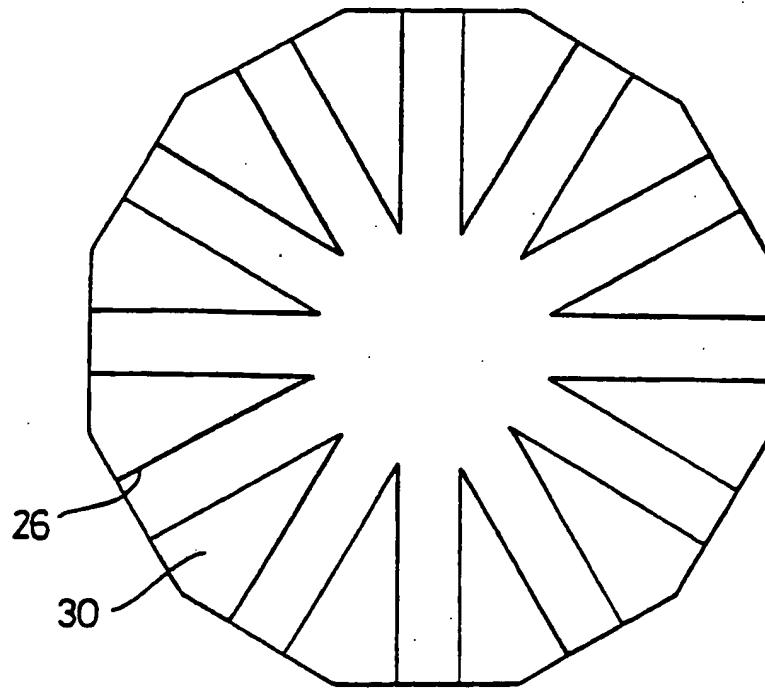
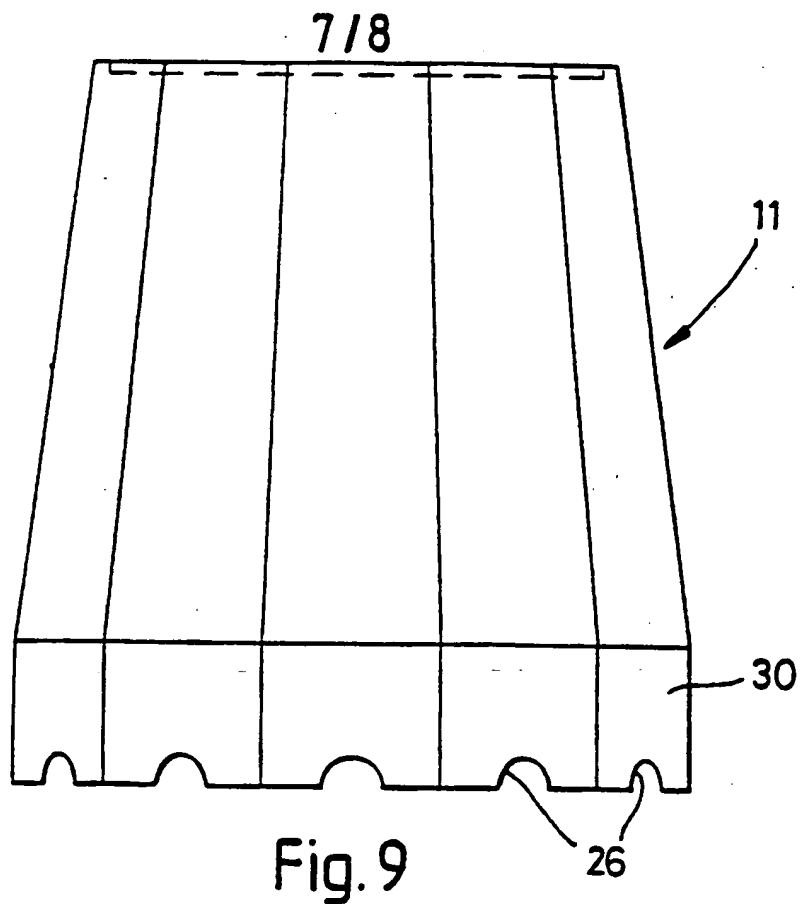


Fig. 10

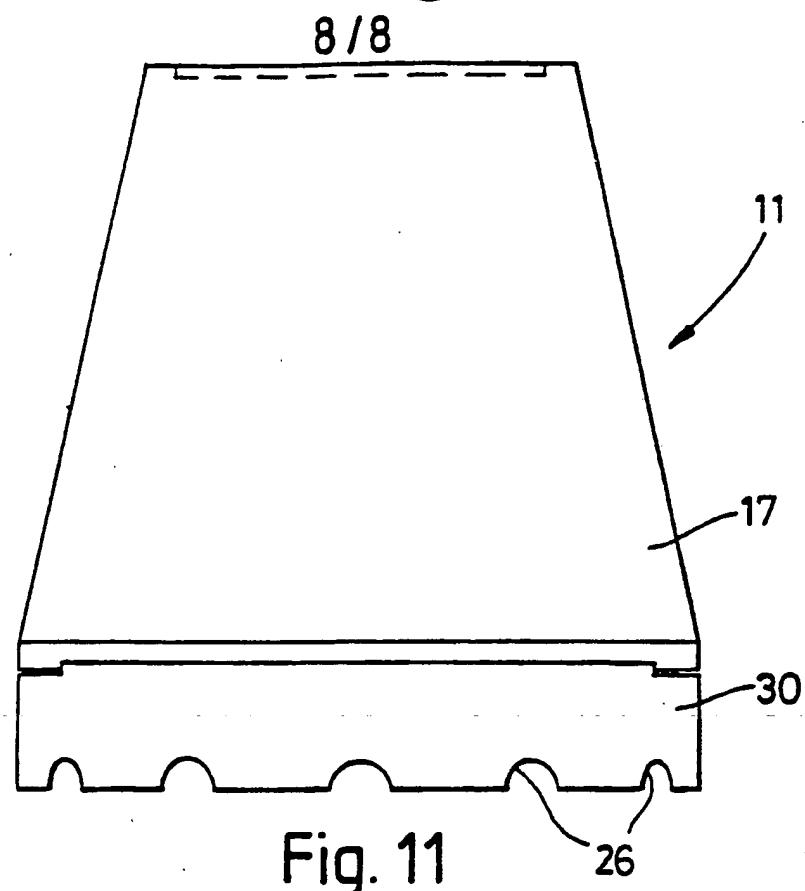


Fig. 11

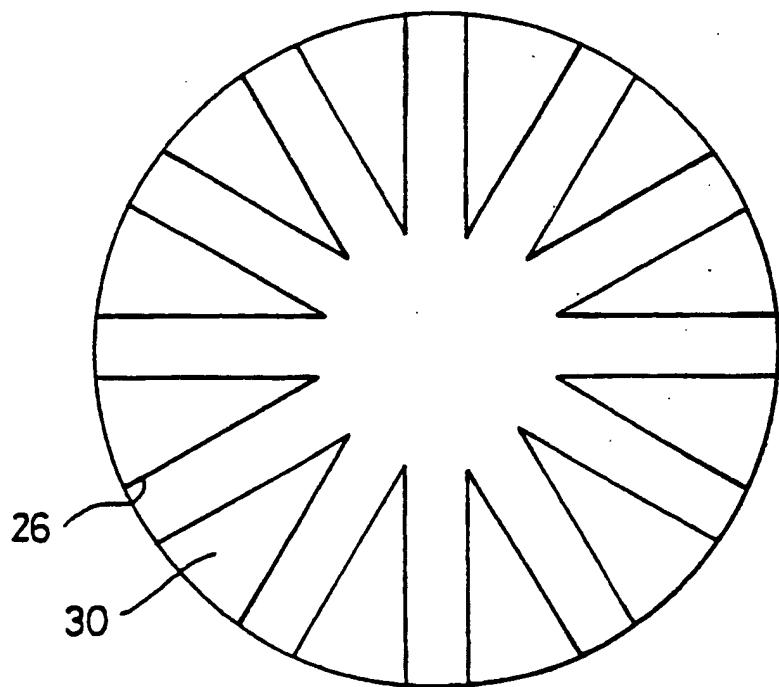


Fig. 12

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/GB 93/00192

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all)⁶

According to International Patent Classification (IPC) or to both National Classification and IPC
 Int.C1. 5 E01F1/00

II. FIELDS SEARCHED

Minimum Documentation Searched⁷

Classification System	Classification Symbols
Int.C1. 5	E01F

Documentation Searched other than Minimum Documentation
 to the Extent that such Documents are Included in the Fields Searched⁸

III. DOCUMENTS CONSIDERED TO BE RELEVANT⁹

Category ¹⁰	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³
X	EP,A,0 186 733 (H. SCHÄFER) 9 July 1986 see page 6, paragraph 3 see page 17, paragraph 2; figures 4,6 ---	1,4,5
A	DE,A,2 905 769 (GUMMIWERK KRAIBURG ELASTIK) 21 August 1980 ---	
P,A	DE,U,9 115 098 (P. LÜFT) 19 March 1992 -----	

* Special categories of cited documents :¹⁰

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

IV. CERTIFICATION

Date of the Actual Completion of the International Search

26 MARCH 1993

Date of Mailing of this International Search Report

06.04.93

International Searching Authority

EUROPEAN PATENT OFFICE

Signature of Authorized Officer

VERVEER D.

ANNEX TO THE INTERNATIONAL SEARCH REPORT
ON INTERNATIONAL PATENT APPLICATION NO.

GB 9300192
SA 69530

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information. 26/03/93

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP-A-0186733	09-07-86	DE-U- 8427790 US-A- 4697294	31-01-85 06-10-87
DE-A-2905769	21-08-80	None	
DE-U-9115098	19-03-92	None	